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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,672	10/18/2004	Shigeru Tomoeda	28951.2176	4239
27890 7590 08/06/2007 STEPTOE & JOHNSON LLP 1330 CONNECTICUT AVENUE, N.W. WASHINGTON, DC 20036			EXAMINER ENSEY, BRIAN	
			ART UNIT 2615	PAPER NUMBER
			MAIL DATE 08/06/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/511,672	Applicant(s) TOMOEDA ET AL.	
	Examiner Brian Ensey	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 10 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to because page 8 is merely a parts list and is not required for examination. Parts identified on page 8 must be included in the description of the invention. Removal of page 8 is suggested. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5, 7, 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akinori Japanese Patent Publication 2003-032786 in view of Sabato Japanese Patent No. 411205897 A.

Regarding claim 1, Akinori discloses a loudspeaker comprising: a magnetic circuit including; at least two parallel bar magnets (9) located between an upper plate (7) and a lower plate (11), and a bar-shaped pole piece (12) parallel to and located between the bar magnets, the bar magnets, the upper plate, the lower plate, and the pole piece forming an outer magnet type magnetic circuit; a frame (5) coupled to the magnetic circuit; a diaphragm (1) coupled to a perimeter of the frame; and a voice coil (4) having a portion located in a magnetic gap of the magnetic circuit (See Figs1-3 and abstract). Akinori does not expressly disclose the voice coil has a shape of a track. However, the use of track shaped tracks is well known in the art and Sabato teaches a tracked shaped speaker comprising a tracked shaped voice coil (See translation paragraph 0024 and abstract solution, "a track type...is freely formed without sacrificing an output sound pressure"). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a track shaped speaker/ voice coil in place of the rectangular speaker/voice coil as taught by Akinori for sufficient output sound pressure in a slim compact shape (See Sabato translation paragraph 0024 and abstract solution).

Regarding claims 2-4, the combination of Akinori in view of Sabato further discloses the magnetic gap, the outer configuration of the magnetic circuit and the external configuration of the diaphragm are that of a track (See translation paragraph 0024 and abstract solution, "a track type...is freely formed without sacrificing an output sound pressure").

Regarding claim 5, the combination of Akinori in view of Sabato further discloses the magnetic gap at least has a straight section (See Akinori Fig. 1).

Regarding claim 7, the combination of Akinori in view of Sabato further discloses the magnetic circuit comprises the lower plate divided in the vertical direction (See Akinori Fig. 1, lower plate 11 comprises two independent plates and therefore meets the disclosed limitation).

Regarding claim 9, the combination of Akinori in view of Sabato further discloses the magnetic circuit comprises the lower plate divided in the direction of thickness (See Akinori Fig. 1, lower plate 11 comprises two independent plates and therefore meets the disclosed limitation).

Regarding claim 15, the combination of Akinori in view of Sabato further discloses the lower plate (11) is the bar-shaped pole piece (See Akinori Fig. 1).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Akinori in view of Sabato as applied to claim 1 above, and further in view of Nakaso U.S. Patent No. 6,654,475.

Regarding claim 6, the combination of Akinori in view of Sabato discloses a loudspeaker as claimed. The combination of Akinori in view of Sabato does not expressly disclose the magnetic circuit is formed by dividing the upper plate. However, the use of divided upper plates is well known in the art and Nakaso teaches a magnetic circuit is formed by dividing the upper plate (8) (See Fig. 21). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the single upper plate of the combination of Akinori in view of Sabato with the split upper plate of Nakaso for ease of manufacturing and weight reduction.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Akinori in view of Sabato as applied to claim 1 above, and further in view of Sueaki Japanese Patent Publication 05-191892.

Regarding claim 8, the combination of Akinori in view of Sabato discloses a loudspeaker as claimed. The combination of Akinori in view of Sabato does not expressly disclose the lower

plate comprises a bent metal sheet. However, the use of bent metal lower plates is well known in the art and Sueaki teaches a lower plate (14) with edges bent in an upward direction into the magnetic gap (See Sueaki Fig. 2). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a bent lower plate for ease of manufacturing (No casting required. Piece can be made from a single flat sheet).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Akinori in view of Sabato as applied to claim 1 above, and further in view of Sabato et al. U.S. Patent No. 6,188,774.

Regarding claim 11, the combination of Akinori in view of Sabato discloses a loudspeaker as claimed. The combination of Akinori in view of Sabato does not expressly disclose the upper plate is fabricated by bending a metal sheet. However, Sabato '774 teaches an upper plate (4) fabricated by bending a metal sheet (See Fig. 1 and col. 2, lines 39-53). Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the top plate of the combination of Akinori in view of Sabato with the bent top plate of Sabato for accurate magnet gap to reduce abnormal sounds (See Sabato '774 abstract).

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Akinori in view of Sabato as applied to claim 1 above, and further in view of Miwa Japanese Patent No. 2000-201396A.

Regarding claims 13 and 14, the combination of Akinori in view of Sabato does not expressly disclose a module that comprises the loudspeaker of claim 1 and an electronic circuit or an electronic apparatus equipped with the loudspeaker of claim 1. However, the use of

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miniature loudspeakers in electronic modules or circuits is well known in the art and Miwa teaches a track shaped speaker for use in a portable phone. Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention to use the miniature tracked shaped speaker of the combination of Akinori in view of Sabato in the portable phone as taught by Miwa (Therefore being connected to an electronic circuit and used in an electronic module) to obtain sufficient output and sound quality while saving space (See Miwa abstract).

Allowable Subject Matter

Claims 10 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1-9, 11 and 13-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Any response to this action should be mailed to:

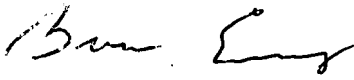
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BRIAN ENSEY
PRIMARY EXAMINER
8/21/07